(54) Title: A COMPETITIVE ARCADE GAMING SYSTEM
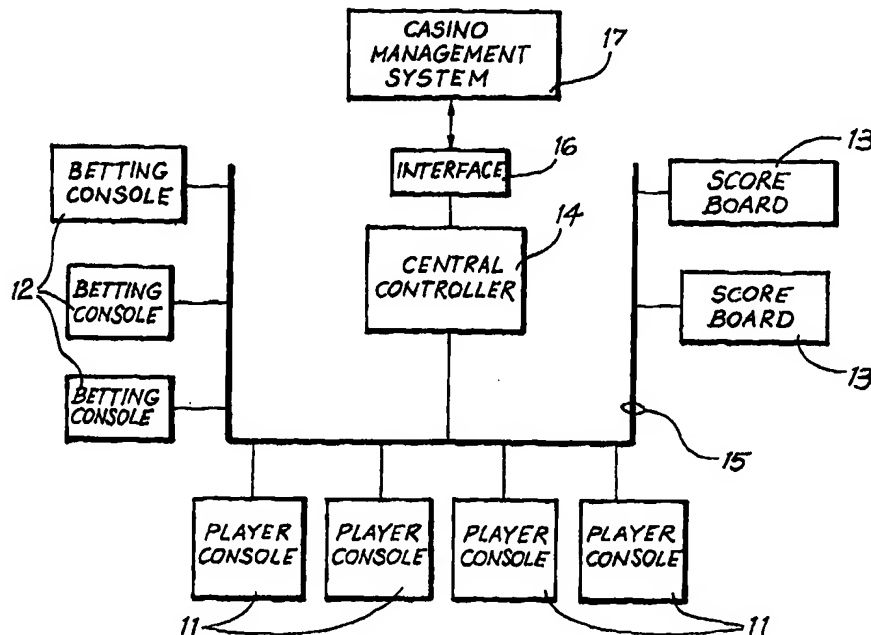
(57) Abstract

An arcade style gaming system is described in which players engage in skill based competitions and gamble on the outcome. As a simple example consider three linked arcade style car racing games (e.g. Sega Daytona™). Three players each pay $10 to compete with the winner being awarded $20 and the operator collecting the remaining $10. Spectators may also gamble on the outcome in the same way they would on any sports event.

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A COMPETITIVE ARCADE GAMING SYSTEM

Introduction

The invention relates generally to gaming systems and in particular an arcade style gaming system is described in which players engage in skill based competitions and gamble on the outcome.

As a simple example consider three linked arcade style car racing games (eg. Sega Daytona™). Three players each pay $10 to compete with the winner being awarded $20 and the operator collecting the remaining $10. Spectators may also gamble on the outcome in the same way they would on any sports event.

Background of the invention

Traditional arcade amusement machines are highly interactive and exciting to the player, but do not allow for gambling. The final outcome (score) of the game depends on the skill of the player. Arcade machines may be linked together to allow players to compete against each other in a shared world (eg. a race track), with the outcome being based on each player's respective skill. Players essentially pay a fixed fee to use the amusement machine, often with a discount for playing multiple games.

Traditional gambling machines, are barely interactive and require relatively little player skill. The game outcome is random and often not affected by the player's skill. The excitement of these games is in the possibility of winning or losing money. These machines can be networked and connected to a casino management system to enable accounting, player service functions (eg. calling for a drink or an attendant), player profiling, security and participation in linked jackpots. The operator makes a profit from the statistical bias in the games in their favour.

Gambling machines have a high level of security to prevent tampering with the machine by casino staff or customers, involving physical locks and electronic sensors. Accounting information, including money in and out, is stored and reconciled with the cash in the machine to detect tampering.

Gambling machines can be linked into jackpot systems offering substantial prizes. The linked system may be within a casino or state wide, such as in the state of Nevada.

Definitions

For the sake of clarity the following terms are defined to have the following meaning throughout this specification:

- **An arcade game** is a traditional amusement machine, such as found in a game arcade (eg. Sega Daytona™, Sega Manx Superbike™), the home version of these machines (eg. Nintendo Ultra64™, Sony Playstation™), and home computers (eg. IBM PC running Doom™ or Quake™). In general it refers to any type of game, including games of knowledge.
- A **gambling machine**, usually referred to as a gaming machine, is a traditional gaming machine. Typical examples include slot machines of the type having rotating reels, video reel simulation and video card games.
- A **casino** refers to the operator of gambling machines, including the arcade gaming system of the present invention.
- An **agent** is a computer generated and controlled avatar. A typical example is monsters in the game Doom.
- In an arcade gaming system a **competition** is a game in which gambling is taking place on an interactive game between a plurality of players and **competitors** are players who are gambling.
- In an arcade gaming system a **game** generally refers to either an amusement or gambling game.
- **Bookmaking** is the practice of determining odds and receiving and paying off bets on the outcome of sporting events (particularly horseraces), political contests, and other competitions.
- **Credit** refers to money deposited into the gaming system and recorded in the system's accounts.

Summary of the invention

According to a first aspect the present invention provides a gaming machine system including:

at least two player consoles each arranged to allow a player to play an interactive game on the system where a player on one console plays a skill based game against one or more players playing on other consoles;

credit establishment means for establishing or adding to a credit held in a credit account of a wagerer.

wagering means for establishing a wager on the interactive game played between two or more players, wherein a part or all of a credit held in

the credit account of the wagerer may be wagered on a particular outcome of the game or an event forming part of the game;

control means arranged to administer the system, control communication between the gaming consoles and to judge outcomes.

According to a second aspect the present invention provides a gaming machine system including:

at least two player consoles each arranged to allow a player to play an interactive game on the system where a player on one console plays a skill based game against one or more players playing on other consoles;

credit establishment means for establishing or adding to a credit held in a credit account of a player;

player credit being used to purchase games and as a means of keeping score between players across multiple games, the player credit being otherwise non-refundable;

control means arranged to administer the system, control communication between the gaming consoles and to judge outcomes.

Alternatively in the first and second aspects one player console may be provided on which a player plays an interactive game against the system and/or one or more other players playing on other consoles.

According to a third aspect the present invention provides a gaming console of the type arranged to receive a credit, play a game having a plurality of possible winning and losing outcomes and, in the event that a winning outcome occurs, award a prize, the console including display means to display a game image or images, wherein the console is additionally arranged to advertising material between games.

According to a fourth aspect the present invention provides a gaming system including:

one or more player consoles of the type arranged to receive a credit, play a game having a plurality of possible winning and losing outcomes and, in the event that a winning outcome occurs, award a prize, the console including display means to display a game image or images, wherein the console is additionally arranged to advertising material between games each arranged to allow a player to play a game on the system where a player on one console plays a skill based game against one or more players playing on other consoles.

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Preferably, the control system also pays awards to any wagerers who have wagered on a winning outcome, however, this may be handled entirely within the wagering means.

The wagering means may be separate from, or included in the gaming console, but in the preferred embodiment, wagering means are built into the player consoles and freestanding wagering consoles are also provided separate from the player consoles such that wagerers other than the players, may bet on a game played on the system. In the event that the selected outcome occurs, the wagering console will display a prize value awarded to the non-playing wagerer.

In some embodiments wagers may be placed on events occurring during the game such that the outcome of the wager is known and the prize awarded before the game is completed.

In particular games played on the system, prizes are awarded for player achievements during the game. Typically these awarded prizes are provided as credits to the player. In some such games penalties are also imposed on players for achievements of other players in the game, these penalties typically being imposed by deducting credits from the player. It is also possible for games to either impose penalties or give awards of this nature but not both. Penalties and awards will usually be applied to a credit value nominated by the respective player for that game, and at any given time, if the penalties exceed the credit value plus any awarded credits held by the player, the player is expelled from the game.

Embodiments of the system may include multi-venue systems where different players and/or wagerers may be physically located at different venues with their respective consoles connected to the system via a wide area network. Communication between site in a widely spaced implementation may be provided by an internet connection or a wide area computer network.

The preferred embodiment also includes a scoreboard arranged to show progressive results and final results of games being played. In some embodiments the scoreboard will also be arranged to show advertising material and/or player enticement material between games and/or intermittently during games. In such systems the player consoles will also display advertising material between games, as will the non-player consoles.

Preferably the advertising material displayed is game outcome dependant and the control means tracks the number of occurrences of each advertisement.

In preferred embodiments, outcome conflicts created by timing issues related to the gaming machines being located at spaced locations are resolved by the control means.

Some games provided on the system are discrete games in which each player participating in the game must participate in the game from the start of the game until the game ends or the particular player quits or is expelled from the game. Games may also be continuous ones in which players may enter an ongoing game, play for a period and leave the game at will, the game continuing until the number of players drops below a minimum number for that game. Some examples of games are a car racing simulation, a personal or team combat game, a simulated aerial dog fight, Doom, Trivial Pursuit or other knowledge based game, a hand of poker or other card game.

In some games a player can buy game resources, in which case the resources are resources that may give the player an advantage over other competitors, thereby providing insurance against losing the game, or may be resources that potentially increase the return to the player. Purchasable game resources may also be of a type that are beneficial only in the event of certain random events occurring during the game.

Some games also include an eject feature whereby the player may optionally exit the game before the game is completed. However typically the eject feature will have the characteristic that the player may only exit the game under certain conditions where a losing outcome or penalty is not about to occur.

Games may also be provided in which players are arranged in teams which compete against one another and the gamble outcome for each player is at least partially related to the result of the respective players' team.

Preferably, several games may be played on the system simultaneously with different subsets of machines participating in each game. Non-players may place a wager on any winning outcome for any player in any game, and players may place a wager on any winning outcome for any player any game in which they are not participating as well as any outcome which is a winning outcome for them in a game in which they are currently participating.

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In some embodiments of the system, control of the game is distributed between the player consoles and the control means, whereas in other embodiments the control is concentrated in the control means. In the first of these arrangements player inputs are accepted and the display updated under control of the respective player console, whereas in the second, the player consoles each pass a respective player status update to the control means and receive from the control means, an updated player status for each player in the game, such that the control means controls all players' interaction

In one embodiment of the invention, bets placed on a player terminal must be for a winning outcome on that terminal (ie. the player cannot bet against him or herself).

Brief Descriptions of the Drawings

Embodiments of the invention will now be described by way of example, with reference to the accompanying drawings in which:

Figure 1 is a block diagram of an arcade gaming system according to the present invention;

Figure 2 is a block diagram of an arcade gaming system according to the present invention with distributed control;

Figure 3 is a block diagram of an arcade gaming system according to the present invention when configured for a large installation;

Figure 4 is a block diagram of an arcade gaming system according to the present invention when configured for a multisite installation; and

Figure 5 is a block diagram of a part of a system according to an embodiment of the invention showing several types of player console.

Detailed description of Preferred Embodiments

Embodiments of the invention will now be described by way of example with reference to various optional features which may be rearranged in different combinations.

A system is disclosed combining attributes of traditional arcade and gambling machines to give a highly interactive, exciting gambling experience. The system has several advantages:

- Arcade gaming involves skill-based group competition and will appeal to a different segment of the gambling and amusement market.
- Amusement only arcade games can be expensive to play due to the high cost of the platform. Arcade gaming machines can be subsidised by

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gambling and may be much cheaper, if not free, for amusement only
games.

- Traditional casino games, such as poker, require casino staff (croupier) to
  administer the game. Staff costs can therefore be reduced.

5 - The system can be implemented such that player skill does not affect the
  amount of money returned to the operator and hence the system may be
  easier to approve for sale in the various jurisdictions.

The system has three primary modes of operation, i) amusement,
ii) individual gambling and iii) competition. Amusement mode is similar to

10 the traditional arcade game in which the player does not gamble money,
although a charge may be made for use of the machine. Individual gambling
is similar to traditional gaming, in which the player gambles money in games
of chance with minimal skill involved. In competition mode the player
competes in games of skill with other players and gambles on the outcome.

15 One or more players may use the system in amusement mode without
gambling on the outcome. Further, the amusement player(s) may take part in
a competition in which other players or spectators are gambling, without
gambling themselves. The system may optionally announce the outcome
that would have occurred if the players had been gambling, thus encouraging

20 non-gamblers to compete. Spectators may optionally be allowed to gamble
on the outcome of games in which no players are gambling.

A bonus at the end of the game may be awarded in proportion to the
difference between scores, giving players incentive not only to get ahead, but
to do it by a wide margin. Players may also gamble on the final score.

25 Spectators can link their gamble directly to players' score/gamble as well. By
averaging the bonus over multiple games the players have the possibility of
winning more money than they collectively put into the game.

Gamblers refers to both players and spectators who gamble on games.

In another variation players are uniquely identified and a history kept

30 of their games played. The identification may take the form of their name,
nickname, membership number, a membership or credit card, including
magnetic stripe or smartcards, with optional validation by PIN or password.
The player history enables the system to more accurately calculate the odds

competition. It also becomes more difficult for players to cheat other players by lying about their own skill level.

System Architecture

In the preferred implementation (Figure 1) at least two player consoles
11, optional spectator betting consoles 12 and optional score boards 13 are linked to a central controller 14 via a communication network 15 which may be a local network or a wide area network. The state of player consoles is communicated to the controller to enable creation of a shared game environment, resolution of game outcomes, enable player bets to be taken, player profiling and for security. The score boards 13 allow the display of current game state, game outcomes, and gamble outcomes to a wide audience. Casino management information (cash in, out, etc) is passed to the casino management system 17, via an optional interface 16.

The central controller is responsible for resolving gamble outcomes. In distributed systems it is possible for multiple mutually exclusive outcomes to happen. For example, due to communications delays, two players might think that they had each crossed the finish line first. The central controller resolves this.

The number and physical location of players in a game is limited only by the acceptable time lag in communications for the game, and the number of players suitable for a game. For example, a time lag of 1 second between players due to international distances, or 5000 players on a 2 km car-racing track, is probably not acceptable. However such a delay may be quite acceptable in other games, such as knowledge based competitions. Players need not be limited to a single venue or casino, but may be spread among multiple locations, connected by any communications medium (Internet, local or wide area network, modem, radio, cable or broadcast TV) and allows players in different venues to join the same game. The arrangement of Figure 4 illustrates a multivenue system in which a system controller 14 is linked via an internet connection 35 to a number of site controllers 24, each of which controls a site local area network 25 having similar functionality to the main site local area network 15. Each satellite site controller 24 can control a plurality of player consoles 11, non-player consoles 12 and scoreboards 13 as for the main system controller 14 and these consoles on the satellite sites can participate in games with consoles on other sites and the satellite site

scoreboards can display game results for games played on other sites and across multiple sites.

A large distance may physically separate each element of the system. For example player consoles may be spread across multiple venues, yet allow players in different venues to compete. Another example is the use of TV as the scoreboard.

A shared game environment is created either by communication between player consoles or under control of a central controller. The central controller combines player input with its game model to generate successive game events.

The trade-off between game computation carried out by controller or console depends on the implementation desired. At one extreme the player console 11 simply displays video pictures and audio generated by the central controller 14, while at the other extreme the console 11 generates the entire game environment locally under high level direction from the central controller 14.

In an alternate implementation control of the system is distributed (Figure 2), with each element in the system determining its action without recourse to a central controller. In this implementation:

- At all times during game play the console 11 knows the state (location, direction, speed, etc) of all other players.
- Each player console 11 knows the state of all others in the competition and therefore knows where its player placed in the competition, and the payout, if any, due to the player.
- Each betting console 12 is linked to the player console 11, knows the outcome of the competition and is thus able to determine and payout each bet placed on it. Each betting console 12 may be linked to all of the game machines 11 or only one, in which case that one machine 11 relays all the relevant information to the console 12.
- Each scoreboard 13 is linked to each player console 11 and optionally to the betting consoles 12 and is therefore able to display the appropriate information. Each scoreboard 13 may be linked to all of the game machines 11 or only one, in which case that one machine relays all the relevant information to the console 12.

Many other architectures are obviously possible. In large systems betting consoles 12 and scoreboards 13 may be interfaced to the rest of the

system via separate bet controllers 18, betting network 21 and scoreboard controllers 19 and scoreboard network 22 (Figure 3) to minimise bandwidth on the player console network 15 or otherwise simplify communications.

A single casino may have multiple arcade gaming systems, allowing a
5   number of separate games to run in parallel. The architecture of such a system may be a single large system, with games separated logically, or multiple separate arcade gaming systems, optionally connected via a high level interface to enable shared functions. Shared functions include, betting console that can bet on any game and scoreboards that can display any game.

10   **Player Console**

Players in a game use the player console to play and otherwise interact with the system. The player console has the necessary output means (display, audio, vibration, etc) and control means (buttons, switches, steering wheel, pedals, guns, skis, joystick, etc) for the player to play the game. The
15   player uses the player service function to call for service from the operator, for example attendant, drinks, and security.

Referring to Figure 5, a plurality of different types of player consoles may be connected to the gaming system including a car racing console 36, a bike racing console 37, a skiing console 38 and a traditional electronic
20   gaming machine 39. Each of these consoles would be capable of playing a different sub-set of the available games on the system with the car, bike and skiing consoles 35, 36, 37 each capable of playing a variety of racing and adventure games and the traditional electronic gaming machine capable of playing card, dice and keno style games as well as a selection of adventure
25   and knowledge style games. Each console includes a control panel 41 on which bet and game controls are located, a display screen 42 for presenting game and bet information and in some instances, special player controls 43, such as a steering wheel, handle bars or ski stocks.

The betting console 12 accepts payments for bets and pays winnings
30   and will be similar in configuration to a traditional electronic gaming console 39. Payment may be made by any method including cash, credit card, cheque, smartcard based electronic payments or on the casino account. Winnings may be received by the same means. The betting console may issue receipts and redemption certificates for bets, such as printed cards,
35   magnetic stripe cards and smartcards, etc.

An optional eject feature allows a competitor to immediately stop gambling and either withdraws the competitor from the game or allows them to continue in amusement mode. This feature allows competitors to leave the game in a controlled and well defined manner if required (for example medical, toilet, boredom), but is not intended to be used by competitors to maximise their winnings.

When a competitor ejects their account is frozen. The competitor does not win any gambles on the game outcome. Gambles by others involving that competitor are either void or lost.

At some points in the game the eject feature will not function immediately, thereby preventing the player from ejecting when it can be predicted that the outcome is going to be unfavourable and ejection could be used to reduce the penalty that would otherwise occur.

In some scenarios the player is able to predict in advance that they will lose money because they are in a situation within the game where they either cannot avoid a particular disadvantageous outcome or where the effort of avoiding the disadvantageous outcome is high and the probability of success is low.

To prevent competitors using eject to maximise winnings (or minimise losses) at least the following scenarios have been identified in which the eject feature should be disabled or a delay imposed, including:

• Where the system has determined that the player is to lose some money, and is taking some time over making the loss happen. The player can tell something bad is happening but is unable to prevent it. For example, in a car race a malfunction in the car causes a loss of player control with an intended eventual crash. The player should not be able to prevent the outcome.

The eject feature may be implemented in many forms, including:

• A button which the player pushes.

• By the player removing their hands from the controls, for example letting go of the steering wheel in a car racing game, or removing a headset (eg. vision system).

• By the player steeping out of the game console. For example getting out of a seat in the player console, or off the skis in a ski game.

The game representation of the player who ejects can also take a number of forms, including:

- The player immediately disappears from the games.
- The player is annihilated in some fashion, for example explodes, or a system-generated agent destroys the player.
- In games where the player is carried in a vehicle the player is ejected from the vehicle and perishes. For example, an ejector seat in a car, aircraft, robotic body armour.

Spectator Betting Console

The betting console displays player information, outcomes and odds which may be bet upon, and accepts bets from spectators and players. For example a bet may be placed on which player comes first, second, third, last, or the placement of a group of players.

The betting console accepts payments for bets and pays winnings. Payment may be made by any method including cash, credit card, cheque, smartcard based electronic payments or on the casino account. Winnings may be received by the same means. The betting console may issue receipts and redemption certificates for bets, such as printed cards, magnetic stripe cards and smartcards, etc.

A limited number of betting consoles may be distributed around the casino to be shared by all spectators or spectators may have one each. A single betting console may be used to bet on more than one gaming system.

In a variation on the betting console, bets are taken without direct communication with the gaming system. For example a bookmaker may independently offer odds and gambles on a competition.

Score Board

The score board displays the current game state and final game and gamble outcomes to a wide audience. During the competition it may display the current placement of the players, for example 1st, 2nd, 3rd and their respective score (eg. distance, speed, points, money, etc).

The scoreboard may display various view of the game and give an automated commentary. For example in a car race it would initially display the start line, then follow the cars around the track, focussing on different cars, until the first car nears the finish line were it would focus on the winner.

Score boards may be mounted on each machine giving spectator the status of the corresponding player.

Prior to the commencement of a new game the scoreboard may display the outcome of the previous game or the odds and prizes offered on the next game.

Displays a view of the player's environment, either from a players viewpoint or elsewhere, such as start and finish lines.

The scoreboard may at appropriate times display a video picture of the player as captured by a video camera in the player console. The image of the player may be overlayed with that of the computer generated background of the game.

Bets, Odds and Fees

The odds offered to gamblers (players and spectators) are calculated to be fair to the gamblers and ensure a profit for the systems operators. Both players and spectator may gamble on game outcomes.

It can be expected that players will try to cheat the operator by rigging the outcome of competitions, so the gambling system reflect this concern. Other betting systems are quite feasible depending on the likelihood and consequences of player cheating.

The operator is paid, and makes a profit, in one or more of the following ways:

- A fixed fee is paid for equipment usage as is required in traditional amusement machines.
- Players purchase and expend one or more resources during the game, either as a continuous or discrete charge from the player's account.
- A portion of each bet made is paid to the operator.
- A portion of each transfer of money between players during the game is paid to the operator.
- The balance of wins and losses against the system are paid to the operator.

Depending on the type of game the player gambles in two different ways:

- In 'outcome gambling' a gamble is made on the outcome of the competition. The bet is normally made prior to the start of the game, although in a variation gamblers can make bets during the course of the game.
- In 'account gambling' during the course of the game, gambles and transfers are made to and from the player's account. Typically the account cannot be negative, indicating the player owes the operator money, due to the

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difficulty in collecting debts from gamblers and the impact on people who might otherwise spend more than they had anticipated.

In an account gambling, prior to starting the game the competitor establishes an account with a payment of money to the system. The value may either be fixed or player selectable and is the maximum amount the player is prepared to gamble and hence lose. Money in the account at the end of the game is paid back to the player or held for further games. The account can instead be directly linked to a player's account at another institution, such as a bank, with all credits and debits being direct to that institution. The player sets up the link to the institution, using for example a credit card and PIN, and instructs the system of the maximum amount they wish to gamble (ie. lose). The competitor immediately loses the competition if the value in the account falls to zero or below.

Therefore the fee each player pays to compete can be considered as being composed of three parts, gaming equipment usage, the bet on the outcome and the initial account value. The equipment usage charge is optional and may not be required. A non-gambling, amusement only player pays only the equipment usage charge. The bet and account value may be either fixed, have a minimum value or player selectable. The initial odds offered by the system to each player are determined by the amount each player has gambled minus any fee paid to the operator.

In the simplest system each player pays a fixed fee to enter the competition. The operator takes a portion of the total fee and returns the rest to the winning player or players. For example, each of 5 players in a competition pays $10. The total paid is $50, of which the operator takes $20, with $30 being returned to the winning player, or $20 to winner and $10 to the runner up. The operator makes money on each competition played, and the winner(s) also gain. The players cannot cheat the operator.

After a competition has been set up, with fees and initial bets taken, betting by spectator and players on the outcome takes place. In the preferred implementation the odds given for outcomes change dynamically based on wagers made. A return on a bet is calculated on the odds when wagering for the competition has finished, typically when the competition starts. For example a bet may be made on odds of 10 to 1, but when wagering stops the odds are only 2 to 1. The gamble will return 2 to 1. The system calculates the odds so that the operator will make a profit and to influence gamblers to

cover wagers already made. If the system cannot guarantee the operator profits (or at least cannot lose) the competition will be suspended until either more bets have changed the situation, the operator covers the wagers or the game is cancelled. In a variation, gamblers may change or withdraw their bets until wagering stops.

For example, at any instant the total bets on each of 3 competitors winning are A, B and C. The system can offer odds on A winning of B+C to A, on B of A+C to B and on C of A+B to C. With these odds the system neither wins nor loses. The odds are adjusted in favour of the operator by a portion of the bet, a fixed amount or both. For example, the odds become (B+C)×0.9 to A, etc giving the operator 10% of the bet, or (B+C-$100) to A, giving the operator a maximum of $100. Note these examples assume the winning wagerer also has the original bet returned. The values of A, B and C, and hence the odds, change with every bet placed. In some instances, it may be beneficial if the operator percentage is lower for player bets than for non-player bets to ensure that players are encouraged to play. Odds may also be calculated differently for players and non-players as a means of attracting player participation.

In another implementation the return on a bet is fixed by the odds when the bet is made. The system offers gamblers odds and maximum bets that are dynamically determined based on the total possible payout, and are calculated to ensure a profit for the operator. For example, with 5 players each paying $10 and the payout to the winner being $30, then $20 is left for the operator. The system can offer the next gambler as much as $4 at 5 to 1 (a maximum win of $20) on a particular player winning, without the operator losing money. Subsequent gamblers can be offered different odds and maximum amounts as the maximum potential losses to the operator constantly change.

Gamblers may also offer bets and odds, mediated by the system, with the system, hence operator, being paid a fee (fixed or proportional to the bet) for this service. Other gamblers see the offer on the system and are given the option to covering it (or a portion of it). For example a spectator may offer a bet of $10 at 2 to 1 odds on a particular player winning. Another spectator seeing this offer via the betting console, player console, or scoreboard can cover it.

When player cheating by fixing the competition outcome is sufficiently low the odds and maximum bets can be set at levels where the operator is exposed to losses for a particular competition, but makes a profit over the course of multiple competitions. The players are thus offered better winnings

In a variation the system changes the odds and bets offered based on the previous game history, so that the overall profit the operator is maintained at a particular level. For example a competition history of 1 day enables the operator to make a day by day profit, set at a particular level, and gives the players better gambles when the operator is making excess profit, or can improve the operators profit. Thus fairness to both player and operator is assured.

With account gambling, during game play money can be transferred between competitors, with the system (optionally) taking a portion each time, by the appropriate actions of the competitors involved. In an analogy to many real world situations the skill with which the action is executed may vary the value transferred, with two advantages. First player skill is rewarded and second the fact that the system is taking a portion of each transfer is obscured, as the amount taken is different each time. The value transferred may also vary randomly from the nominal. Further, the amount transferred may change due to some game dependant feature, for example increasing with time into the game, bonus periods and locations in the game with different scaling factors.

For example in a car racing game competition when a competitor overtakes another competitor $1 is transferred from the overtaken competitor, $0.90 is paid to the overtaking competitor and the system takes $0.10. If the transfer is always $1.00 and the other player always gets $0.90 it is very obvious to the player that $0.10 has gone to the system each time, which is not desirable. The value transferred may instead be proportional to the difference in speed (or vary from a nominal value by the difference in speed) of the cars during the overtaking manoeuvre.

Optionally the player cannot bet against himself, but obviously the player can easily arrange to have an accomplice do it.

Non-gambling players may also participate in a competition and might pay a reduced fee for equipment usage, say $5, but do not gain any money if they win. The operator is paid when a player uses a machine without

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gambling, as in a traditional arcade system, but makes a further profit if that player wins (ie. the operator gets the entire sum). Optionally non-gambling players are excluded from the competition gamble calculation, preventing operators cheating customers by employing highly skilled players to increase their profit.

To entice players to compete, particularly where they are not confident of the outcome:

- Players may place different initial bets or offer unequal odds, reflecting their different levels of skill. A highly skilled player competing against lesser skilled players could be expected to bet more than the other players. That player stands to gain less and lose more, but this reflects his level of skill, and might be the only way highly skilled player could persuade lesser players to compete.
- Players may be handicapped to change the odds of the game. For example the handicapped player in a car race game may drive a slow or unresponsive car, or in a knowledge game the questions may be posed slightly later.
- In one implementation a portion of the money bet by spectators is awarded to the winner or shared between the players (either equally or in proportion to their performance). It is therefore possible for the players to win substantially more money than they have collectively gambled.
- Subsidising player games with spectator betting, or giving players better odds than spectators.

In an alternate implementation, game credit may be non-refundable, and is hence used primarily as a means of keeping score between players especially across multiple games.

Random Wins and Losses

Random events in games cause competitors to win or lose money, or be put into situations where they can win or lose money. Whether the player loses money depends on the system and the skill of the player. For example, in a car racing game a pedestrian steps in front of the car. The system can give the player no chance to avoid the pedestrian, in which case the player will lose money, or the player can be given a chance in which case it is up to the player's skill.

Except for jackpots wins and losses in a game balance, with any excess money randomly awarded before or at the end of the game. In a variation the odds are biased in favour of losses and the balance is paid to the operator.

If a jackpot is implemented a portion of the money gambled in each
5   game is set aside for a jackpot prize. The jackpot is not awarded at each game allowing large jackpots to be awarded occasionally. Note, that this could be either a linked or stand alone accumulative jackpot and is different to linked jackpots in that it does not require a linked system. Typically the jackpot is awarded to the winner(s) of the competition and is announced at
10   some point during the game.

Examples of events that could cause competitors to lose money:

- Monsters attack the player, or in a car game is attacked by another car (eg. drunk, road rage or a learner driver).
- In a racing the player gets stuck in a traffic jam or behind a learner driver
15   going very slowly.
- The player steps in quicksand or on a landmine, or in a car racing game hits a pot hole or skids in water or an oil slick on the road.
- In a racing game the player is caught in a police speed trap or stopped for an alcohol test.
20   - In a car racing game the player can be awarded an alcoholic drink (or drugs). The resulting effect causes the car to be difficult to control. The player loses or risks losing money.
- System agents compete against the competitor. For example, in a car racing game with money transferred by overtaking, a system controlled car
25   can appear behind the player and overtake.

Examples of events that cause competitors to win money are:

- The player finds treasure or a pile of money.

System agents compete against the competitor. For example, in a car racing game with money transferred by overtaking, a system controlled car can
30   appear in front of the player and allow the player to overtake. In a personal combat game the player can win money by shooting a system controlled enemy (eg monsters).

Linked Jackpots

The arcade gaming system may be linked into a traditional casino or
35   state wide jackpot system. Gamblers (players and spectators) on the arcade system can thus also take part in the jackpot system. A linked jackpot

systems uses a central link controller which takes input from the gambling machines when players are gambling and selects at random a jackpot winner. The odds of the individual gambling machines are adjusted down to allow for the jackpot.

To the linked system the arcade gaming machine behaves as a traditional gambling machine, with a portion of money bet paid into the linked jackpot. Either the winning gamblers or all gamblers and players gain entry to the jackpot at the end of each competition. The jackpot prize awarded to a particular player or gambler, or split (equally or otherwise) all gamblers or players in the competition.

In another implementation only arcade gaming systems are linked. Some examples, which may be used separately or in combination:

- The jackpot winner is a gambler periodically selected at random from those who win.
- The winner is the player with the best score during a particular interval, where the interval is either fixed or random.
- The first player to beat a set score, either randomly generated or a previous high score.
- After a randomly generated delay the next player with a score higher that the highest recorded within that time wins. For example after a randomly selected period of 1 hour the first player who achieves a score higher than the highest recorded with that 1 hour wins.
- The jackpot win is awarded to, or split between, gamblers who bet on a specific outcome, or the gambler closest to it, the outcome being randomly selected from the group of possible outcomes or actual gambled outcomes.

Discrete and Continuous Games

Two types of games are possible, discrete and continuous. Discrete games have a fixed group of players who do not change during the course of the game. Continuous games continue as long as two or more players are playing and players may join and leave the game at any point.

A discrete game is set up by a group of players agreeing to compete and advising the system of their intention, either via the player consoles or betting stations. Games may be set up in advance, to allow a queuing system or structured competitions by a large number of players. Players may also request games from the system with the next available players, eg the player

asks to play in the next game with a place available, subject to confirmation by those players already in the game.

A continuous game requires at least two competitors at all times. If only one player wishing to gamble is present the game either stops or runs in a non-gambling amusement mode. Players can join a competition already in progress, or if no competition is in progress the player waits for another competitor then starts one. Players may join the competition without gambling, for amusement only. A benefit of this type of game is that players can practice without gambling. They need only gamble if confident of doing well.

Game Resources

In some types of game the player is able to purchase from their account resources (eg. fuel or equipment) which are helpful in various game situations. Depending on implementation unused resources may or may not be refundable at the end of the game. The player must judge how much money they want to spend during the game and balance the risk of running out of a needed item against wasting money if it is not used. The characteristics of resources in game play are designed to enable player skill to influence the game outcome. The more skilled a player, the better they will be able to use the resource to improve their outcome.

Resources may be divided into two categories, continuous and discrete:

- A continuous resource is used and hence charged continuously or at least in such small increments that it seems continuous to the player. For example in a car racing game the player can be charged for time, say $1 per minute, for fuel, with fuel usage being proportional to speed.
- A discrete resource is used in discrete events. For example ammunition, armour, maps, information, tools, transport, etc.

Examples of resources include:

- Ammunition is used in many types of games and multiple types of ammunition may be used within a game (eg. bullets to rocket launches). Players buy ammunition (although some may be free) to shoot their enemy, either other players or system generated. A missed shot is wasted money, but a transfer of money from the other player (minus an optional system fee) rewards a hit. The cost of ammunition, its availability and its use in the game will vary depending on its characteristics, including the value transferred, its range, and the number of enemy it can effect (eg. a

large explosion will effect all enemy with a certain radius) and its ease of use. Some types of ammunition is refundable, some is not. Some types of ammunitions are automatically resupplied while other types must be located and/or purchased. The amount transferred may vary as previously described, for example, a shot through the head would be more valuable than a arm wound.

- Amour is a non-refundable resource that reduces the value transferred by an attack. For example the value transferred to another player may be reduced by 50% for a player wearing armour. Skill is required in the use of armour, as if not used its cost is wasted.
- Fuel, especially in a car racing game, may be charged discrete as at a garage or continuously as in an unlimited supply charged as it is used. Fuel consumption may further be proportional to speed. Unnecessary fuel consumption is therefore penalised and skill rewarded. A competitor who crashes a car is penalised by wasting both time and opportunity to recoup money by overtaking other players.

In an analogy to many real world situations the amount transferred may vary from its nominal value to simulate, for example, accuracy of shooting or the effect of a car crash. The variation may be either random or proportional to the skill with which the player created the situation, for example the placement of the gunshot (eg a shot through the head would be more valuable than a arm wound).

Team Competitions

In a variation of the system competition takes place between two or more teams of players. The prize is split among the members of the winning team, either equally or in some proportion based on individual performance.

Many types of competitions may be implemented as team games, including war games, racing games, knowledge games. War games are typically team games, including games to capture another teams flag.

The odds offered by the system are in proportion to the relative number of players in the team, hence the amount collected from each team. The system collects a fee from each team and the residual money is awarded to the winning team.

For example two teams of 5 players each pay $10 to compete. The system takes 20% of the total $100 for the operator, leaving $80 to be split among the 5 players of the winning team.

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In another example two teams of 2 and 5 players each pay $10 per person to compete. The system takes 20% of the total $70 for the operator, leaving $56 to be awarded to the winning team. Either 2 players collect $28 each or 5 players collect $11.20 each.

Security and Accounting

Security is required to prevent either players or operators cheating and is similar to that required for traditional gambling machines. Communication between the various parts of the system may be secured either physically and/or by means of encryption.

A game history is kept in case of system errors or player disputes. Current and previous games may be replayed via the player consoles and scoreboards, showing each player viewpoint and the players game control actions. Player's actions are indicated by various means, including a transparent overlay on the screen with indications of the control settings, display of the actions on another player console, on a scoreboard, etc.

Advertising

At appropriate times, typically before and after games, the scoreboard, player console and betting consoles may be used to display advertising. Advertising may be selected independently or customised to the player and type of game.

In one implementation players' performance is measured and according to their performance an entertaining or educational advertisement is displayed at the end of the game. Either all or selected players are subjected to advertising. The system thus earns the operator additional revenue or is good for public relations.

The player's performance may be determined by one or more of the following methods:

- The player's game outcome or placement, eg win or lose.
- The player's measured level of skill, as determined by a system measured response to events in the game.
- A vote among players and spectators, via player and betting consoles.

Advertisement may be further tailored to the players based on the players' names, size of the players' betting styles (indicating how much money they have to spend or their gambling habits), the players' history with the casino, the players' credit rating with a credit agency, or the players' personal profile as specified by any such agency.

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Examples of advertisements based on these principals are:

- A player with a poor performance in a car racing game might have "Join XYZ Health Insurance Company – With your driving you'll be needing us".
- A player with a poor performance in a car racing game might have "Drunk driving is illegal – Call XYZ Taxi Service on 123456 to take you home tonight".
- A player with a good performance in a car racing game or an excellent credit rating might have "With driving like this you deserve a Porsche – Call XYZ on 123456".
- In a car racing game a socially beneficial advertisement using the player's name, "Speed killed John – Drive carefully".

In another implementation the player's picture (or video) is displayed with the advertising, leading to advertisement such as "Drink driving kills. Call this man a XYZ taxi tonight on 123456" or "If you drive like this man you'll be wanting car repairs at XYZ". The picture may taken from a stored membership database or from a video/camera in the player console.

Games

Several games are described with various features based on the principles disclosed. Actual games do not necessarily use all of the features described, but select an appropriate subset, and in addition may use other features derived from the principles disclosed.

Car Racing

In a car racing game, in addition to bets being placed on the final outcome of the game, a player can win credits from other competitors by overtaking them and lose credits to other competitors by being overtaken, ie points are transferred from one player to another. The player may also bet the system that after a certain period they will have at least a certain score, or on the final outcome of the game. The odds for a particular score are fixed or determined by the bets made by the other players. Accidents transfer points from the player to the system. This game has a fixed period for the player, but requires only that at least one other player is involved. Credits are transferred whether a player is gambling or not.

A car racing game may also be arranged so that a first sum of points is awarded for overtaking other players and a higher sum of credits is deducted when other players overtake, ie credits are transferred from one player to another, but the system takes a portion of the credits from each transfer. The

player buys credits at the start of their competition and sells credits back to the system at the end of the game. For example, if credits cost $1 each and the player starts with $20, overtakes 15 other cars, but is overtaken himself 5 times. If the system take 10% on each transfer, the player wins an extra 15 × $0.90, loses 5 × $1.00, and so collects $18.50, an $8.50 profit. The operator also collects $2.00 ((15+5) × $0.10) due to that player. If the player loses all their credits they are no longer able to gamble. No points are transferred when passing a non-gambling player.

In a game with a large number of players the road may not be wide enough to allow all players to start in the same position. Therefore a method of selecting the starting positions may be implemented, including one or more of the following:

- The initial starting position is random and is not assigned until the race starts.
- The first one, or more, laps of the game are not gambled on. Players have time to adjust their positions.
- One or more qualifying laps are first raced and the players placed on the start line according to their performance. For example, players are ranked according to their lap time, or the ending position or the number of other cars they managed to overtake.

In one implementation, for a fee, free, or as a bonus game, the player can take a drunk-driving test. This specially designed game measures the player's driving aptitude and advises if they are too drunk to drive. If required, warnings on the game specify that the test is for amusement only is not a legal test.

In another implementation, to make games are made more interesting, the system simulates the players being drunk or otherwise make the controls respond differently. For example the controls do not respond quickly to the player or the steering wheel is reversed so that left is right and right is left.

Personal Combat

Personal combat amusement games such as Doom™ are very popular. A personal combat arcade gaming system may use many of the principles outlined, including:

- Players bet on the game outcome and/or gamble with an account.
- Games may be discrete or continuous.
- Games may be individual or team based.

- Competitors buy resources from the system, such as armour, weapons and ammunition, maps.
- When an enemy (another player or system generated) is killed or damaged money is transferred (minus the system percentage) from the enemy to the player. The system may generate an enemy (eg a monster) which carries a value for destroying, but is also capable of inflicting damage on the player.
- Some weapons and armour are required to attack certain high value, high risk targets.
- Use once magic spells enable the player to get to a particular scenario.

Knowledge Based

Knowledge based competitions (eg. Trivial Pursuit™) may use many of the principals outlined, including:

- Players bet on the game outcome and/or gamble with an account.
- Games may be discrete or continuous.
- Games may be individual or team based.
- Players compete to give the correct answer first. In a distributed system the player console may measure the player response time, to adjust for communication delays between player consoles and (optional) central controller.
- Money or points are awarded by several schemes, including for correct answers, correct answers first, the first X% of competitors with the correct answer and optionally splitting the prize among the winners in proportion to their response time. Optionally money may be lost for incorrect answers or for not winning.

It will be appreciated by persons skilled in the art that numerous variations and/or modifications may be made to the invention as shown in the specific embodiments without departing from the spirit or scope of the invention as broadly described. The present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive.

CLAIMS:

1.   A gaming machine system including:

at least two player consoles each arranged to allow a player to play an interactive game on the system where a player on one console plays a skill based game against one or more players playing on other consoles;

credit establishment means for establishing or adding to a credit held in a credit account of a wagerer.

wagering means for establishing a wager on the interactive game played between two or more players, wherein a part or all of a credit held in the credit account of the wagerer may be wagered on a particular outcome of the game or an event forming part of the game;

control means arranged to administer the system, control communication between the gaming consoles and to judge outcomes.

2.   A gaming machine system including:

at least one player console arranged to allow a player to play an interactive game on the system where the player on the one console plays a skill based game against the system and/or one or more other players playing on other consoles;

credit establishment means for establishing or adding to a credit held in a credit account of a wagerer.

wagering means for establishing a wager on the interactive game played between the one player and the system and/or the one or more other players, wherein a part or all of a credit held in the credit account of the wagerer may be wagered on a particular outcome of the game or an event forming part of the game;

control means arranged to administer the system, control communication between the gaming consoles and to judge outcomes.

3.   A gaming machine system including:

at least two player consoles each arranged to allow a player to play an interactive game on the system where a player on one console plays a skill based game against one or more players playing on other consoles;

credit establishment means for establishing or adding to a credit held in a credit account of a player;

player credit being used to purchase games and as a means of keeping score between players across multiple games, the player credit being otherwise non-refundable;

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control means arranged to administer the system, control communication between the gaming consoles and to judge outcomes.

4.   A gaming machine system including:

at least one player console arranged to allow a player to play an interactive game on the system where a player on the one console plays a skill based game against the system and/or one or more players playing on other consoles;

credit establishment means for establishing or adding to a credit held in a credit account of a player;

player credit being used to purchase games and as a means of keeping score between the player and the system and/or or other players across multiple games, the player credit being otherwise non-refundable;

control means arranged to administer the system, control communication between the gaming consoles and to judge outcomes.

5.   The gaming machine system as claimed in claim 1, 2, 3 or 4, wherein as well as player consoles, the system includes a wagering console on which a non-player may place a wager on a selected game outcome without participating as a player in the interactive game and in the event that the selected outcome occurs, the wagering console will display a prize value awarded to the non-playing wagerer.

6.   The gaming machine system as claimed in claim 1, 2, 3, 4 or 5, wherein player consoles are arranged to receive wagers from non-playing wagerers.

7.   The gaming machine system as claimed in claim 6, wherein wagers placed via a player console must be for a winning outcome for the player on that console.

8.   The gaming machine system as claimed in claim 5, 6 or 7, wherein player and non-player wagerer credit accounts are administered by the control means.

9.   The gaming machine system as claimed in any one of claims 1 to 8, wherein wagers are held and prizes paid by the control means.

10.   The gaming machine system as claimed in any one of the preceding claims, wherein wagers may be placed on events occurring during the game such that the outcome of the wager is known and the prize awarded before the game is completed.

11.   The gaming machine system as claimed in any one of the preceding claims, wherein prizes are awarded for player achievements during the game.

12.   The gaming machine system as claimed in claim 11, wherein the awarded prizes are provided as credits to the player.

13.   The gaming machine system as claimed in any one of the preceding claims, wherein penalties are imposed on players for achievements of other players in the game.

14.   The gaming machine system as claimed in claim 12, wherein the penalties are imposed by deducting credits from the player.

15.   The gaming machine system as claimed in claim 13, wherein penalties are deducted from a credit value nominated by the respective player and in the event that the penalties exceed the credit value, the player is expelled from the game.

16.   The gaming machine system as claimed in any one of claims 1 to 10, wherein credits are awarded to a given player for achievements of that given player during the game and credits are taken from the given player as a penalty for achievements of other players over the given player in the game, the credit penalties being deducted from a credit value nominated by the respective player and awarded credits being added to the nominated credit value.

17.   The gaming machine system as claimed in claim 16, wherein, the system takes a percentage of each penalty deducted from each player and the balance is awarded as a credit to the other player who made the respective achievement.

18.   The gaming machine system as claimed in claim 16 or 17, wherein, at any given time, if the credit penalties exceed the nominated credit value plus any awarded credits held by the player, the player is expelled from the game.

19.   The gaming machine system as claimed in any one of claims 15 to 18, wherein the player may increase the nominated credit value during the game.

20.   The gaming machine system as claimed in any one of the preceding claims, wherein a scoreboard is provided at each site to display the progress of a game currently in play on the system and to display results of a completed game.

21.   The gaming machine system as claimed in claim 20, wherein the scoreboard displays advertising material between games.

22.   The gaming machine system as claimed in any one of the preceding claims, wherein the player consoles displays advertising material between games.

23.   The gaming machine system as claimed in any one of the preceding claims, wherein the non-player consoles display advertising material between games.

24.   The gaming machine system as claimed in claim 21, 22 or 23, wherein the advertising material displayed is game outcome dependant.

25.   The gaming machine system as claimed in claim 24, wherein the control means tracks the number of occurrences of each advertisement.

26.   The gaming machine system as claimed in any one of the preceding claims, wherein player consoles and non-player consoles are distributed over a number of widely spaces sites, interconnected by a communications system.

27.   The gaming machine system as claimed in claim 26, wherein outcome conflicts created by timing issues related to the gaming machines being located at spaced locations are resolved by the control means.

28.   The gaming machine system as claimed in 26 or 27, wherein the machines at spaced locations are interconnected on an internet connection or a wide area computer network.

29.   The gaming machine system as claimed in any one of the preceding claims, wherein the game is a discrete game in which each player participating in the game must participate in the game from the start of the game until the game ends or the particular player quits or is expelled from the game.

30.   The gaming machine system as claimed in any one of claims 1 to 28, wherein the game is a continuous game in which players may enter an ongoing game, play for a period and leave the game at will, the game continuing until the number of players drops below a minimum number for that game.

31.   The gaming machine system as claimed in any one of claims 29 or 30, in which the game is one of a racing simulation, a combat game, a knowledge based game, and a card game.

32.   The gaming machine system as claimed in any one of claims 29 or 30, in which the game is a car racing simulation.

33.   The gaming machine system as claimed in any one of claims 29 or 30, in which the game is a personal or team fighting or combat game.

34.   The gaming machine system as claimed in any one of claims 29 or 30, in which the game is a simulated air warfare game.

35.   The gaming machine system as claimed in any one of claims 29 or 30, in which the game is a soccer game or other football game.

36.   The gaming machine system as claimed in any one of claims 29 or 30, in which the game is a golf game.

37.   The gaming machine system as claimed in any one of claims 29 or 30, in which the game is a skiing game.

38.   The gaming machine system as claimed in any one of claims 29 or 30, in which the game is a car racing simulation, a personal or team combat game, a game of "Doom".

39.   The gaming machine system as claimed in any one of claims 29 or 30, in which the game is a car racing simulation, a personal or team combat game, a game of "Dungeons and Dragons".

40.   The gaming machine system as claimed in any one of claims 29 or 30, in which the game is a "Trivial Pursuit".

41.   The gaming machine system as claimed in any one of the preceding claims, wherein a player can buy game resources.

42.   The gaming machine system as claimed in claim 41, wherein the resources are resources that give the player an advantage over other competitors, thereby providing insurance against losing the game.

43.   The gaming machine system as claimed in claim 41 or 42, wherein the game resources are resources that potentially increase the return to the player.

44.   The gaming machine system of claim 41, 42 or 43, wherein the game resources are beneficial only in the event of certain random events occurring during the game.

45.   The gaming machine system as claimed in any one of the preceding claims, wherein the game or games include an eject feature whereby the player may optionally exit the game before the game is completed.

46.   The gaming machine system as claimed in claim 45, wherein the player may only exit the game under certain conditions where a losing outcome or penalty is not about to occur.

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47.   The gaming machine system as claimed in any one of the preceding claims, wherein the players are arranged in teams which compete against one another and the gamble outcome for each player is at least partially related to the result of the respective players' team.

48.   The gaming machine system as claimed in any one of the preceding claims, wherein the system is arranged to play several games on simultaneously with different subsets of machines participating in each game.

49.   The gaming machine system as claimed in claim 48, wherein the system controls wagers such that non-players may place a wager on any winning outcome for any player in any game.

50.   The gaming machine system as claimed in claim 48 or 49, wherein the system controls wagers such that players may place a wager on any winning outcome for any other player in any game in which the respective player is not participating as well as any outcome which is a winning outcome for the respective player in a game in which that player is currently participating.

51.   The gaming machine system as claimed in any one of the preceding claims, wherein control of the game is distributed between the player consoles and the control means.

52.   The gaming machine system as claimed claim 51, wherein player inputs are accepted and the display updated under control of the respective player console.

53.   The gaming machine system as claimed in claim 52, wherein the player consoles each pass a respective player status update to the control means and receive from the control means, an updated player status for each player in the game, such that the control means controls all players' interaction

54.   A gaming console of the type arranged to receive a credit, play a game having a plurality of possible winning and losing outcomes and, in the event that a winning outcome occurs, award a prize, the console including display means to display a game image or images, wherein the console is additionally arranged to advertising material between games.

55.   A gaming system including:
       one or more player consoles of the type arranged to receive a credit, play a game having a plurality of possible winning and losing outcomes and, in the event that a winning outcome occurs, award a prize, the console

including display means to display a game image or images, wherein the
console is additionally arranged to advertising material between games each
arranged to allow a player to play a game on the system where a player on
one console plays a skill based game against one or more players playing on
5   other consoles;

56.   The gaming machine system as claimed in claim 55, wherein the
system includes a wagering console on which a non-player may also place a
wager on a selected game outcome without participating in the game as a
player and in the event that the selected outcome occurs, the wagering
10 console will display a prize value awarded to the non-playing wagerer, the
non-player console being further arranged to display advertising material.

57.   The gaming machine system as claimed in claim 55 or 56, wherein the
system includes a scoreboard provided to display game results and system
information, the scoreboard being arranged to also display advertising
15 material.

58.   The gaming machine system as claimed in claim 55, 56 or 57, wherein
the advertising material displayed is game outcome dependant.

59.   The gaming machine system as claimed in any one of claims 57 to 58,
wherein the system includes control means arranged to track the number of
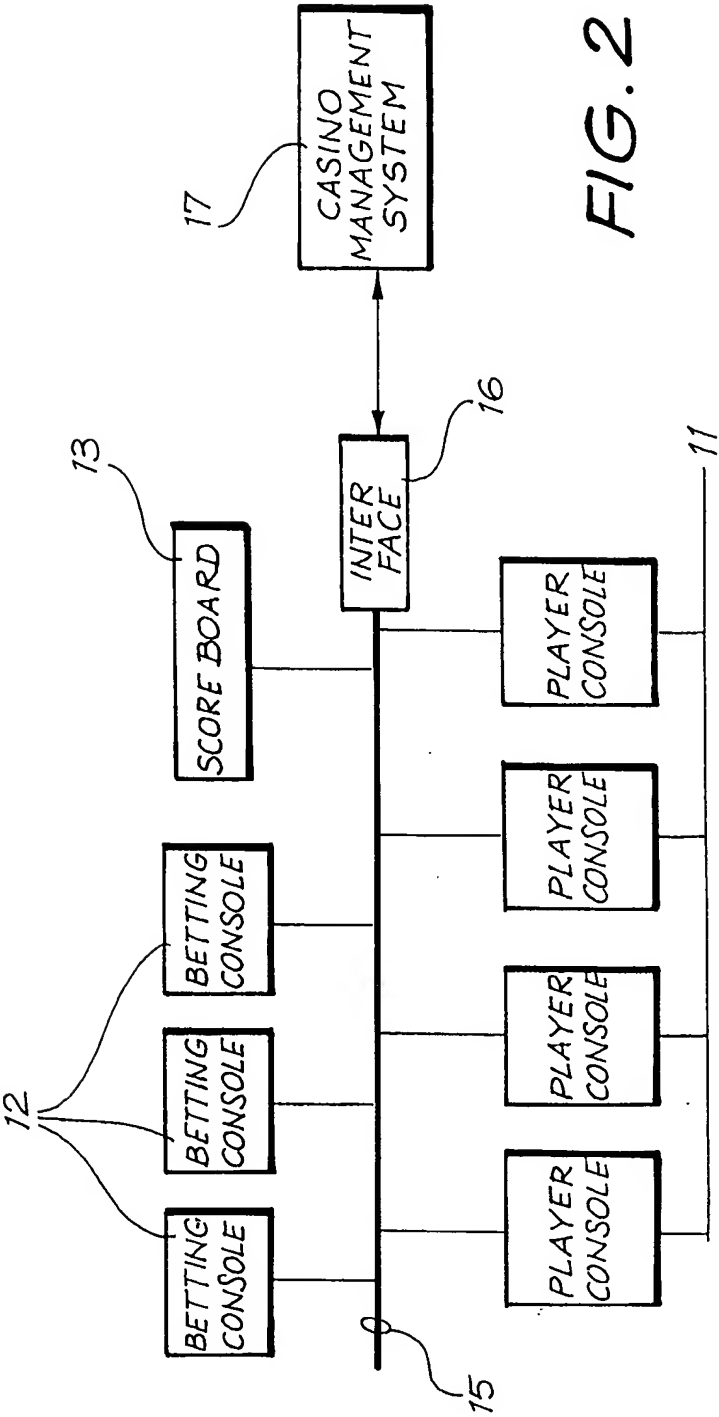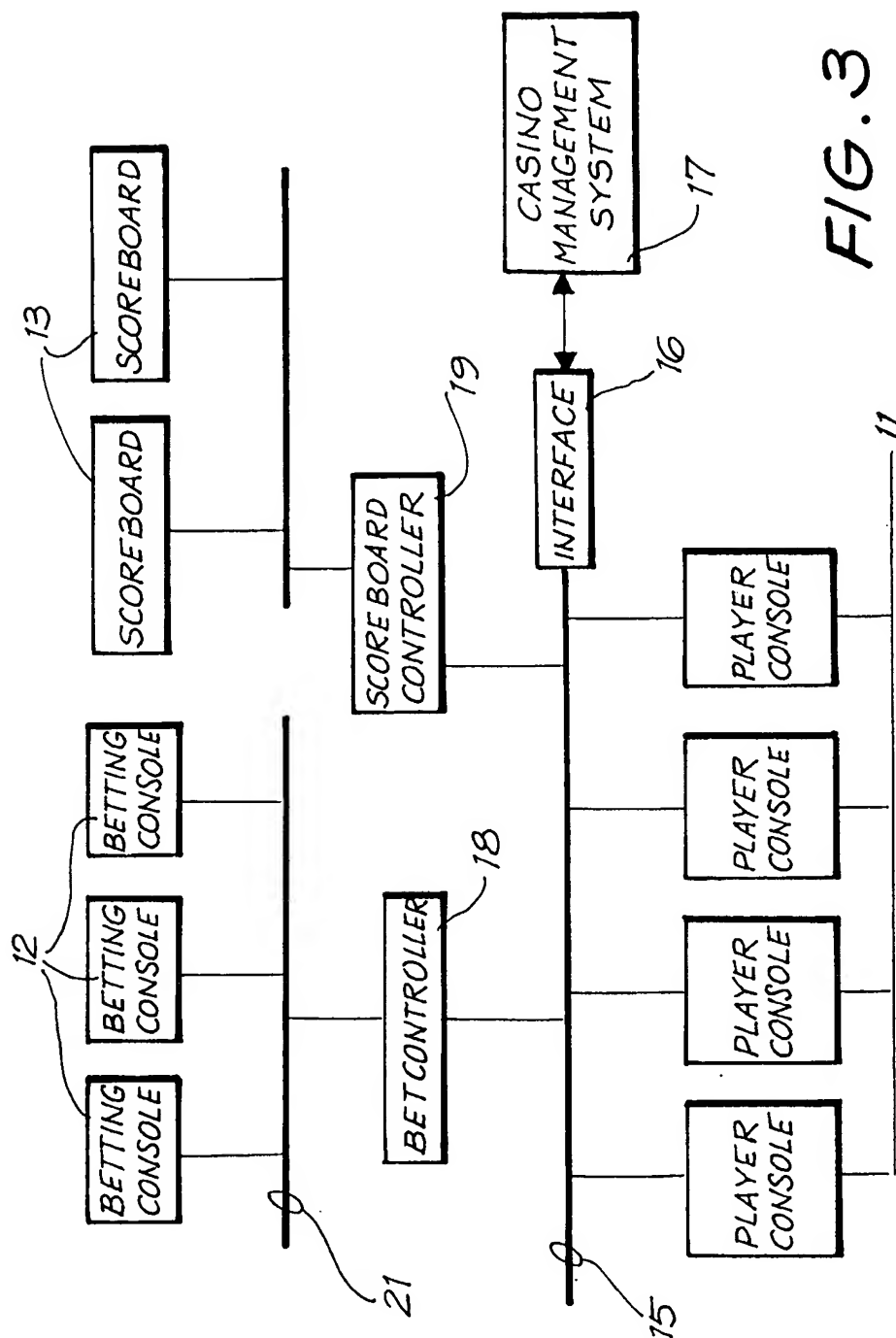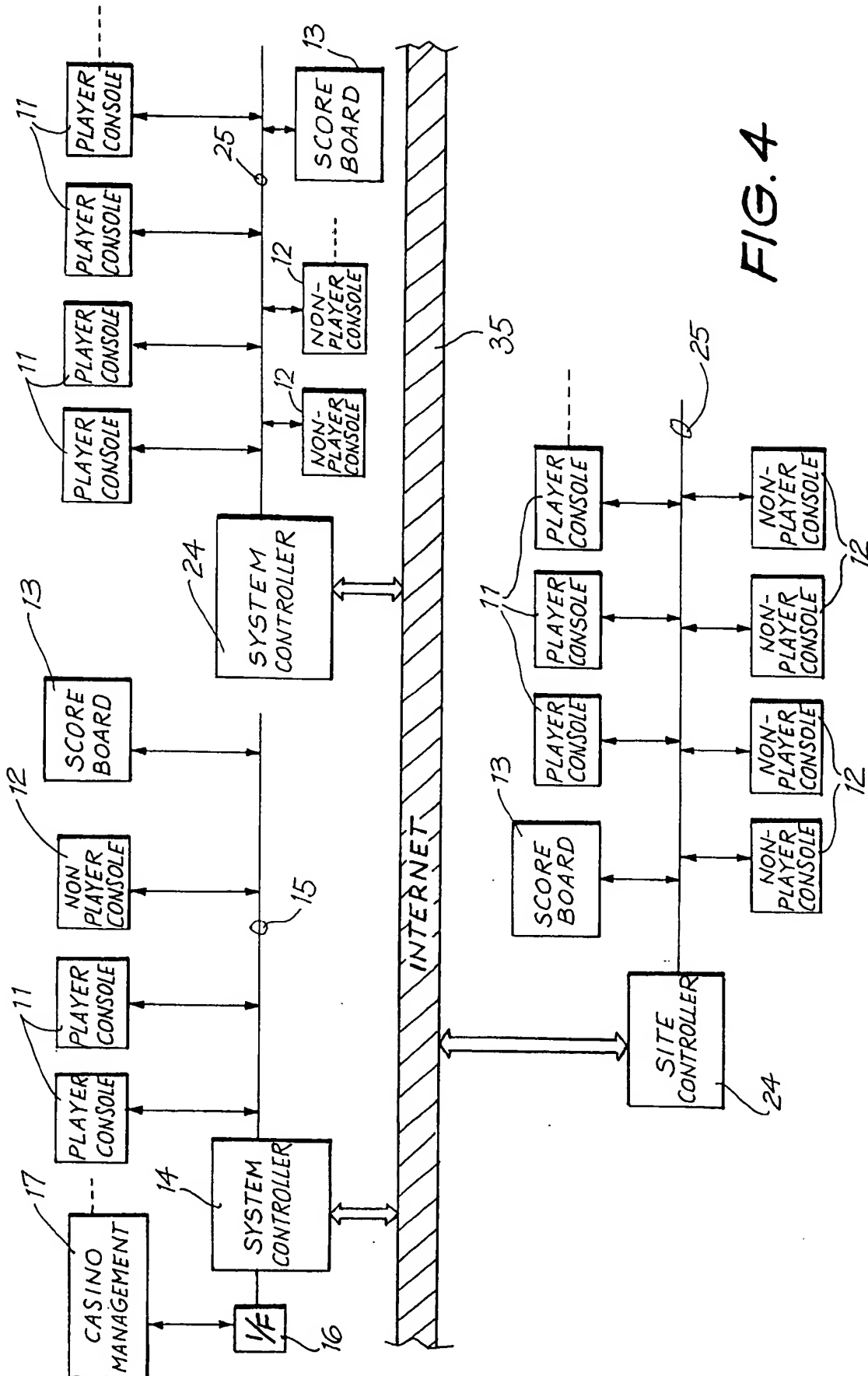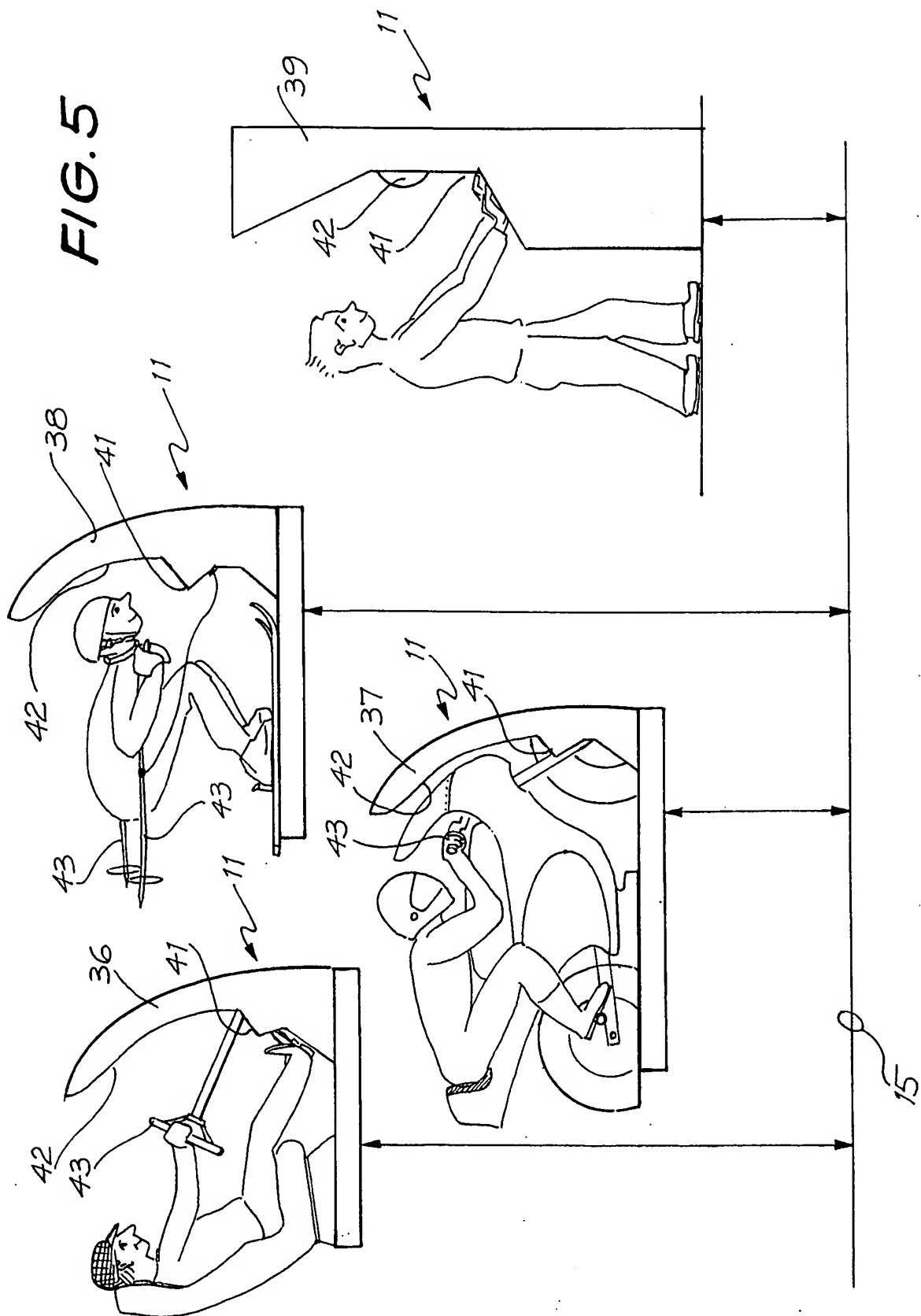20 occurrences of each advertisement.
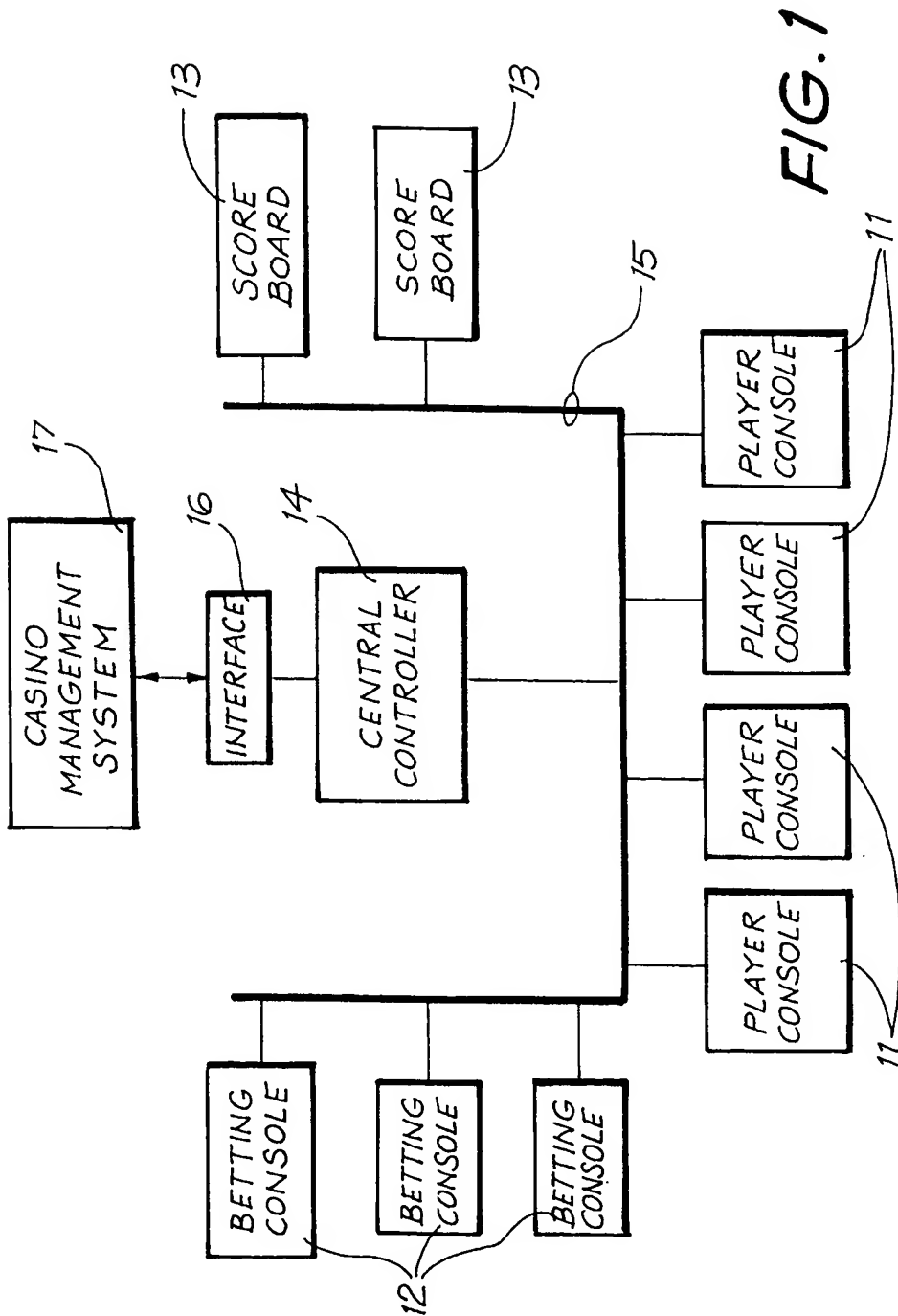
FIG.1

FIG.2

FIG.3

FIG. 4

FIG.5

A.	CLASSIFICATION OF SUBJECT MATTER

Int Cl⁶: A63F 9/22, G06F 161:00, G07F 17/32

According to International Patent Classification (IPC) or to both national classification and IPC

B.	FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC⁶: AS ABOVE AND A63F 9/14, G06F 15/44

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
AU:IPC AS ABOVE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
WPAT

C.	DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 96/25725 (ELTON FABRICATIONS) 22 August 1996	1-4, 9, 20, 29, 31, 32, 38, 39, 51-53
X	WO 93/14462 (IMPACT TELEMEDIA) 22 July 1993. Page 6 in particular.	54
X	GB 2258164 (SOUTHWELL) 3 February 1993	54

[X] Further documents are listed in the continuation of Box C	[X] See patent family annex

*	Special categories of cited documents:		
"A"	document defining the general state of the art which is not considered to be of particular relevance	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E"	earlier document but published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed	"&"	document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
4 June 1998	1 0 JUN 1998
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200 WODEN ACT 2606 AUSTRALIA Facsimile No.: (02) 6285 3929	Authorized officer SEAN APPLEGATE Telephone No.: (02) 6283 2207

C (Continuation)	DOCUMENTS CONSIDERED TO BE RELEVANT	
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5083271 (THACHER ET AL) 21 January 1992 Column 8 in particular.	54, 55, 57
X	GB 2192342 (COUNTRYWIDE COMPETITIONS) 13 January 1988	1-4, 9, 20, 29, 30, 40, 51-53.
X	WO 86/02753 (VIDEODROME) 9 May 1986	1-4, 9, 20, 29, 31, 32, 38-40, 51-53

INTERNATIONAL SEARCH REPORT
Information on patent family members

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report				Patent Family Member			
WO	96/25725	AU	46313/96				
WO	93/14462	AU	32412/93	EP	621968	US	5231568
		US	5373440				
US	5083271	CA	1245361	DE	3522136	GB	2161629
		GB	2194369				
WO	86/02753	EP	198045				

END OF ANNEX

Omnicell's OmniLinkRx/Medication Cabinet Integration

Generally, we are looking for information related to Omnicell's latest release of their medication cabinet and fax imaging products (OmniLink-Rx). Specifically, we are interested in the integration between OmniLink-Rx and the Omnicell medication cabinets, and OmniLink-Rx's ability to provide override messages and answers to dispensing alerts from the cabinets that can be displayed real time for appropriate monitoring and patient safety.

In addition, we would like to get answers to the following on the OmniLink-Rx product:

1. Does the system have the ability to access a computer controlled medication dispensing apparatus?

2. Does the system have the ability to identify a patient?

3. Does the system prompt the user to identify an exception after a medication is identified?

3.5 Is the medication that is identified reviewed against the patient's medication profile or not?

4. Does the system have the ability to store the request to dispense in response to the identified exception?

4.5 Does the system have the ability to actually dispense the medication in response to the identified exception and, if so, is the dispensation performed after a determination as to whether the exception meets some predefined criteria?

*5. Does the user in 3 above select the exception from a pre-configured list?

*6. Does the system have the ability to turn off the override reason prompt?

*7. Does the system have the ability to free-form text entry the override reason?

*8. Does the system have the ability to accept incoming orders and override requests from the medication cabinets and display these in a work queue?